

POM-12102/29  
10905sh

high-strength, high-wear, and abrasion-resistant compositions at user-defined thicknesses required for use as a mold material for both plastic and metal molding processes.

We claim:

500 A<sub>2</sub> 2  
1. A improved tooling fabrication method, comprising the steps of:  
depositing a first metallic or ceramic alloy using a laser-assisted direct metal  
deposition process in a first region of the tooling requiring high thermal or wear  
4 resistance; and  
depositing a second metallic or ceramic alloy using a laser-assisted direct metal  
6 deposition process in a second area of the tooling requiring high strength or impact  
resistance.

2. The method of claim 1, wherein the tooling is used in injection molding,  
2 die casting, or thixomolding.

3. The method of claim 1, wherein:  
2 the tooling includes a gate area; and  
the first metallic or ceramic alloy is deposited relative to the gate area.

500 A<sub>3</sub> 2  
4. ~~The method of claim 1, wherein:~~  
the tooling includes in interface associated with opening and closing; and  
the second metallic or ceramic alloy is deposited relative to interface.

5. The method of claim 1, wherein:  
2 the tooling is die-cast mold having a gate area;  
H19 steel is used in conjunction with the fabrication of the gate area; and

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4 H13 steel is used in conjunction with the fabrication of non-gate areas.

Ref. 14